



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,889	12/07/2000	Shinji Isokawa	362-51	1026

33769 7590 04/07/2004

BODNER & O'ROURKE, LLP
425 BROADHOLLOW ROAD, SUITE 108
MELVILLE, NY 11747

EXAMINER

LOUIE, WAI SING

ART UNIT PAPER NUMBER

2814

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

m

Office Action Summary	Application No. 09/731,889	Applicant(s) ISOKAWA, SHINJI	
	Examiner Wai-Sing Louie	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is a re-issue final office action to clarify the misunderstandings in your response to the previous office action.

Claim Rejections - 35 USC§ 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno et al. (US 5,227,662) in view of Ishinaga (US 5,936,264).

With regard to claim 1, Ohno et al. disclose a composite lead frame and semiconductor device (col. 3, line 25 to col. 7, line 30 and fig. 7) comprising:

- A pair of electrode, having an inner portion 12 and an outer portion 10, where the inner portion residing in the same plane as the outer portion (fig. 7);
- A mold 38 encapsulating the chip 34 and the mold 38 encapsulating the inner portion of the electrode 12 and the outer portion 10 extending substantially laterally beyond the mold 38 (fig. 7);
- A step 28 formed in the inner portion 12 of the electrode inside the mold 38 and the step 28 having a height increasing from an outer side to an inner side of the mold 38 (fig. 7).

Ohno et al. disclose the step 28 is formed by the leadframe, which is formed by FeNi alloy (col. 4, lines 59-67);

- Ohno et al. do not disclose the IC chip is a light-emitting chip. However, it is common in the art to encapsulate a light-emitting chip with this method such as disclosed in Ishinaga (Ishinaga fig. 1). Therefore, it would have been obvious the IC chip in Ohno's device could be a light-emitting chip.

With regard to claim 2 and in according to claim 1 above, Ohno et al. disclose the electrode includes a Cu layer (col. 7, lines 5-6) and the step being formed by changing the thickness of the Cu layer (fig. 7).

With regard to claims 3-4 and in according to claim 2 above, Ohno et al. disclose an Au layer formed in an uppermost layer (col. 6, lines 41-43).

Response to Arguments

Applicant's arguments filed 3/24/04 have been fully considered:

- The applicant has submitted a Terminal Disclaimer on 7/30/03 to obviate the double patenting rejection over a US Patent No. 6,180,962.
- Applicant points out that the electrode in Glenn et al. is not in the same plane. However, Ohno et al. disclose an inner portion and an outer portion (formed immediately outside the encapsulation and prior to the bent portion) of the electrode 10 is residing on the same plane (fig. 7), which meets the claim limitation.

- Applicant argues that the reference numeral 28 in Ohno et al. is merely a lead wire, which does not qualify as a step. However, lead wire 28 is made of metal (col. 4, line 67) and is electrically connected to inner electrode 12 (fig. 7), which becomes a part of electrode 12. Lead wire 28 is a step higher than inner electrode 12 (fig. 7). This meets the limitation of claim 1.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wsl

March 31, 2004.



Wael Fahmy
SPZ 2814